tech.mit.edu

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WEATHER, p. 2 WED: 70°F | 54°F THU: 67°F | 48°F

Tuesday, September 16, 2014



A young boy plays a video game still in its beta stages of testing at the Boston Festival of Indie Games on Saturday in the Johnson Athletic Center's indoor track. The event, created to "celebrate independent game development in New England and neighboring regions," featured everything from card games to video games and included panels explaining the process behind creating many of these games.

# After 19% investment return, endowment climbs to \$12.4 billion

Treasurer says performance enables MIT to catch up on building repairs

By Leon Lin

MIT's primary investment pool generated a return of 19.2 percent in the 2014 fiscal year, during which the Institute's endowment rose to \$12.4 bil-

Company announced last Friday. Israel Ruiz SM '01, the executive vice president and treasurer, called the returns "impressive" in a report on MIT's finances for the 12 months that ended on June 30. The performance was the highest reported since 2007.

lion, the MIT Investment Management

Ruiz said that MIT's financial position has allowed it to pay for construction and renovations that are part of a broad plan to "renew" the campus.

MIT's endowment was first reported to cross the \$10 billion mark in 2012. MIT has the sixth largest college endowment in the country, after Harvard, Yale, the University of Texas system, Stanford, and Princeton.

A fraction of the gains from investments go toward the \$3 billion it takes to keep MIT running each year. The rest comes mostly from federal research grants. Tuition from undergraduates, graduate students, and others contributed about \$320 million in the last fiscal year, according to Ruiz's report.

"In fiscal 2014, MIT expected Federal research funding to be under pressure and result in overall reduction of research volume," the report reads. "The Institute exercised expense control in administrative areas, while investing in education and research

Endowment, Page 12

# Lawyers spar over jury in Tsarnaev case

Lawyers representing Dzhokar Tsarnaev, on trial for allegedly detonating two bombs at the 2013 Boston Marathon and later killing MIT Police officer Sean Collier, called for charges against him to be dismissed on the grounds that grand and trial juries in Massachusetts do not fairly represent the population, violating a constitutional requirement.

According to press reports earlier this month, the lawyers argued that the panel did not adequately represent people over 70, who can opt out of jury service under Massachusetts state law, and African-Americans.

Federal prosecutors argued that Tsarnaev had not indicated that people over 70 are in need of protection from underrepresentation on juries,

and that the Eastern Division of Massachusetts, where the jury will come from, is diverse enough for a fair trial.

After a push by the defense to move the trial to Washington, D.C., where the percentage of people who support capital punishment for Tsarnaev is much lower, prosecution and defense proposed to summon 2,000 potential jurors and use questionnaires to jointly narrow down to an appropriate number for a voire dire. Once 70 remain, each side will independently eliminate equal amounts until there are 12 jurors and six

The judge's decision had not been made public as of press time.

—Sanjana Srivastava

# Investment returns at MIT and other US colleges 20 15 Percent return 10 5 National average 2006 2007 2008 2009 2010 2011 2012 2013 2014

Sources: MIT, 2013 NACUBO-Commonfund Study of Endowments \*No national average available for 2014

INFOGRAPHIC BY KRITHIKA SWAMINATHAN

# With 'eduroam,' MIT offers remote access to MITnet

MIT recently joined the network-access service eduroam and began broadcasting the "eduroam" SSID on Aug. 19, adding to the more familiar "MIT," "MIT GUEST," and "MIT SECURE," according to a news article on MIT

Eduroam's website says that it "allows students, researchers and staff from participating institutions to obtain Internet connectivity ... when visiting other participating institutions."

The system works by providing what can be abstracted as a secure tunnel from a user's computer connected to the Wi-Fi at any participating institution to the network at their home institution, according to the eduroam-US website. This allows the user to not only access the Internet, but to access their home institution's network as they usually would on campus.

MIT students and staff can take advantage of eduroam by using their Kerberos accounts, allowing them to connect to MIT's network from any of the eduroam campuses around the world, including Boston University and approximately 180 others in the U.S.

—William Navarre

# Privacy concerns arise over tech in classrooms

California lawmakers ban the sale and disclosure of data related to K-12 students

By Natasha Singer

THE NEW YORK TIMES

At a New York state elementary school, teachers can use a behaviormonitoring app to compile information on which children have positive attitudes and which act out. In Georgia, some high school cafeterias are using a biometric identification system to let students pay for lunch by scanning the palms of their hands at the checkout line. And across the country, school sports teams are using social media sites for athletes to exchange contact information and game locations.

Technology companies are collecting a vast amount of data about stu-

dents, touching every corner of their educational lives - with few controls on how those details are used.

Now California is poised to become the first state to comprehensively restrict how such information is exploited by the growing education technology industry.

Lawmakers in the state passed a law last month banning educational sites, apps and cloud services used by schools from selling or disclosing personal information about students from kindergarten through high school; from using the children's data to market to them; and from compiling dossiers on them.

Privacy, Page 7

# **IN SHORT**

**Meal plan change period** ends tomorrow. It will not be possible to add, remove, or swap meal plans after Sept. 17.

Career week continues until the end of this week. Career fair will take place Friday, Sept. 19 from 10 a.m. to 4 p.m. in Johnson Athletic Center and Rockwell Cage. (See the schedule of other events on page 13.)

Choose to Reuse will take place Thursday, Sept. 18 on the first floor of Stata. Drop-offs will be accepted beginning at 8 a.m. and collection may take place between 11 a.m. and 1 p.m. All items are free.

The MIT Police bike auction will take place Friday, Sept. 19 at noon at 290 Albany Street.

Send news information and tips to news@tech.mit.edu.

# **DANGEROUS LABS**

Not an investigation. A comic about them. FUN, p. 5

# **CHAMPIONS LEAGUE**

Groups to watch in upcoming return. SPORTS, p. 14

# **FOOTBALL BEATS BECKER**

MIT offense lifts team to 38-14 victory. SPORTS, p. 15



# **INSTITUTE DOUBLE**

Sunset over Simmons. **NEWS, p. 10** 

# **MEGA TECHDOKU**

This is much better than applying to jobs. Trust us.

FUN, p. 6

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# NATION WORLD

# Drugmaker strikes deal on generic form of costly hepatitis C drug

 $\label{eq:new_def} \textbf{NEW DELHI} - \textbf{The maker of one of the cost liest drugs in the}$ world announced Monday that it had struck deals with seven generic drugmakers in India to sell lower-cost versions of the medicine — a \$1,000-a-pill hepatitis C treatment — in poorer

Gilead Sciences, based in California, also said it would begin selling its own version of the drug in India and other developing countries at a fraction of the price it charges in the United States.

The company intends to provide greater access to the medicine Sovaldi for most of the nearly 180 million infected worldwide with hepatitis C who do not live in rich countries. Some 350,000 people die every year of hepatitis C infections, most of them in middle- and low-income nations.

Sovaldi, in only its initial year on the market after gaining approval in the United States in December, is on pace to exceed \$10 billion in sales in 2014, becoming one of the world's bestselling drugs. Its high price has led to intense criticism even in the United States, where officials say it could wreck Medicaid budgets and insurers say it could cause increases in private insurance premiums.

But executives at Gilead say its price is similar to those of other hepatitis C treatments and is a bargain compared to the costs of liver failure and liver cancer, which it may prevent.

News that Gilead, which spends 19 percent of its revenue on research, can profit from sales of Sovaldi even when it cuts the drug's price by 99 percent may further fuel controversy over the company's profits and increase calls for the government to negotiate directly with drug makers for volume discounts in the federal Medicare program.

In the United States, Sovaldi costs \$1,000 a pill or \$84,000 for a typical 12-week course of treatment. It is likely to be sold for less than \$1,800 for a 24-week course of treatment in India, where people are generally infected with a different form of the virus and treatment regimens can take twice as long.

Gilead plans to introduce the drug in India for about \$10 a pill — 1 percent of the price in the United States, Gregg H. Alton, Gilead's executive vice president, said at a news conference.

—Gardiner Harris, The New York Times

# Google introduces phone for emerging markets

BANGALORE, India — Google chose India to introduce on Monday the first of a series of affordable smartphones under its Android One initiative, a bid by the company to win over the "next billion" users in emerging economies.

The phones, starting at 6,399 rupees, or about \$105, are entering what already is the world's third-largest smartphone market behind China and the United States. But it is also the fastest-growing: Demand is exploding as first-time phone buyers, as well as those making the transition from low-tech feature phones, rush to buy ever cheaper and more sophisticated devices.

Google said it intended to take Android One elsewhere in South Asia in the coming months, and to markets like Indonesia and the Philippines.

The world is increasingly going online through smartphones, said Sundar Pichai, Google's senior vice president for Android, Chrome and apps, as he introduced the line of phones in New Delhi. He added, "We're making it easier for our partners to build phones that are not just great to use, but also affordable."

Google joined with three Indian device makers, Micromax, Karbonn and Spice, and the phones will be sold only by the country's biggest online retailers — Amazon India, Flipkart and Snapdeal.

India's smartphone market is expected to double by 2018.

—Saritha Rai, The New York Times

# US is still open to talking to Iran about Islamic State

By Michael R. Gordon and **Thomas Erdbrink** 

THE NEW YORK TIMES

PARIS — Secretary of State John Kerry said Monday that the Obama administration would keep the door open to confidential communications with Iran on the security crisis in Iraq, despite sarcastic criticism from Iran's supreme leader, who said the American plan for bombing Islamic militants, their common enemy, was absurd.

Kerry acknowledged that the United States had opposed a role for Iran at the international conference here on strengthening a coalition to help the new government in Baghdad fight the Islamic State.

Both King Abdullah of Saudi Arabia and top officials from the United Arab Emirates had informed the United States that they would not attend the meeting here if Iran was present, said Kerry, who also stressed that the United States would not coordinate militarily with the Iranians.

But Kerry also said U.S. officials were still prepared to talk to Iranian officials about Iraq and Syria, including on the margins of the negotiations over Iran's nuclear program, which will resume in New York on Thursday.

Just because Iranians were not invited to the Paris conference, Kerry said, "doesn't mean that we are opposed to the idea of communicating to find out if they will come on board or under what circumstances or whether there is the possibility of a change."

Kerry said that "having a channel of communication on one of the biggest issues in the world today is common sense.'

Still, Kerry acknowledged that previous attempts made by Deputy Secretary of State William J. Burns to draw the Iranians into a discussion of regional issues on the margins of earlier rounds of talks had not been productive.

"The confidential discussions never got to that sort of substance," Kerry said.

In Tehran, the tone was quite different. Iranian officials gave

out flurries of statements to local reporters Monday, saying they had rejected multiple invitations by the United States to join the coalition.

Never, they asserted, would Iran consider working with the United States to cleanse the region of terrorists, who the Iranians asserted had been created and nurtured by the West.

The country's highest leader, Ayatollah Ali Khamenei, indicated that no matter who had invited whom, Iran would sit arms crossed and watch as the coalition tries to bomb the Islamic State away.

On Monday, as Khamenei was discharged from the hospital after a prostate operation, he said that he had enjoyed his time as a patient, since he had "a hobby," which was "listening to Americans making statements on combating ISIS — it was really amusing," a statement posted on his personal website read, using an alternate name for the Islamic State.

"Of course," he said, such statements are "absurd, hollow and biased."

# Number of Americans with health insurance increases

By Sabrina Tavernise

THE NEW YORK TIMES

Federal researchers reported on Tuesday that the number of Americans without health insurance had declined substantially in the first quarter of this year, the first federal measure of the number of uninsured Americans since the Affordable Care Act extended coverage to millions of people in January.

The number of uninsured Americans fell by about 8 percent to 41 million people in the first quarter of this year, compared with 2013, a drop that represented about 3.8 million people and that roughly matched what experts were expecting based on polling by private groups, like Gallup. The survey also measured physical health but found little evidence of change.

The findings were part of the National Health Interview Survey, a nationally representative examination that is considered a gold standard by researchers. It interviewed about 27,000 people in the first quarter, fewer than Gallup, which interviewed 45,000 people in the second quarter alone. But researchers say it is considered particularly trustworthy because federal interviewers conduct the survey in Americans' homes. It also sets a federal level that others can use as a benchmark.

Larry Levitt, a director at the Program for the Study of Health Reform and Private Insurance at the Kaiser Family Foundation, a health research organization, said the first-quarter findings "dramatically understate the effect" of the law, as almost half of the people who signed up for insurance during the open enrollment period did so in March and did not get their insurance cards until later. Private surveys have shown that there were 8 million to 10 million fewer uninsured by the second quarter, he said.

There was a sharper drop in the share of uninsured in states that expanded Medicaid than in those that did not, reflecting the broad uptake of the government insurance program since the law took

Analysts have scrambled in recent months to measure the effects of the Affordable Care Act, President Barack Obama's signature health insurance reform, by drawing on data trickling in from the early months of this year from health insurance plans, hospital associations and other sources. But experts caution that those ups and downs will not say much about the change, and that a meaningful analysis will only be possible once data from later months accumulate.

"It is too early," said Jonathan Gruber, an economist at MIT whose work was used in shaping the law.

# **WEATHER**

# Cool, dry weather to return soon

By Costa Christopoulos

STAFF METEOROLOGIST

Cambridge experienced a nice taste of fall this weekend with clear, blue skies and lows approaching the 40s (°F). The high pressure system associated with this benign weather is now moving off into the Atlantic. Expect unsettled weather today as a low pressure system approaches from the southwest and a weak frontal boundary pushes through the area. Scattered showers this morning should give way to mostly cloudy skies in the afternoon. Expect moderate westerly winds behind that front.

By Wednesday, we're thrown

back into the dry, cool weather regime as high pressure builds in from the west. Skies should remain mostly clear for the rest of the week with highs in the mid to upper 60s (°F). By Thursday night, Cambridge will see lows in upper 40s while parts of western Massachusetts flirt with the

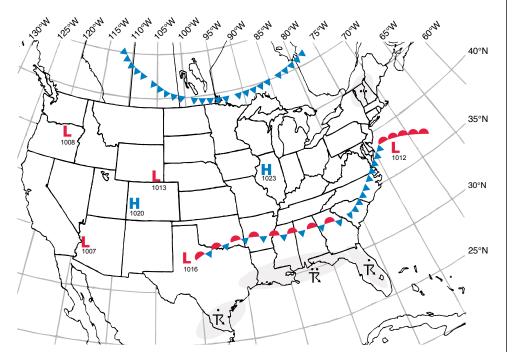
In contrast to the nice weather Cambridge has in store for the following days, parts of the southwestern US will be dealing with remnants of a Pacific hurricane. On Monday, Hurricane Odile made landfall on the southern Baja peninsula. At its peak, Odile had a central pressure of 922 millibars and packed maximum sustained winds of 125 mph!

**Extended Forecast** Today: Scattered showers in the morning give way to mostly cloudy skies by afternoon. High of 69°F with west winds at 7 mph.

Tonight: Partly cloudy and calm, low 55°F.

Tomorrow: Mostly sunny with winds N at 5-10 mph. High around 70°F. Thursday: Sunny with a high in the upper 60s °F. Winds NE at 5-10

Friday: Sunny, highs in the upper 50s °F.



### Situation for Noon Eastern Time, Tuesday, September 16, 2014

Weather Systems	Weather Fronts	Precipita	ation Sy	ymbols	Other Symbols		
			Snow	Rain		Fog	
High Pressure	Trough	Showers	*	÷	<del>-</del>		
_	Warm Front		V	V		Thunderstorm	
Low Pressure		Light	*	•	$\infty$	Haze	
ا	Cold Front	Moderate	**	••	Com	piled by MIT	
§ Hurricane	icane Stationary Fron		Heavy **		Meteorology Staff and The Tech		

Tuesday, September 16, 2014

# North Korea sentences American to 6 years of labor

By Choe Sang-hun
THE NEW YORK TIMES

SEOUL, South Korea — The Supreme Court in North Korea on Sunday sentenced one of the three Americans known to be held in the country to six years of hard labor for

committing "hostile acts" against the North.

North Korea said the American, Matthew Todd Miller of Bakersfield, California, committed the crime while entering the country on a tourist visa in April, according to the official Korean Central News Agency.

The agency also carried photographs that showed Miller, who North Korean court records say is 25, in the defendant's seat in the courtroom with his eyes downcast, and flanked by uniformed security officials. The news agency gave no further details of the trial.

But The Associated Press and The Choson Sinbo, a pro-North Korean newspaper in Japan, both of which were allowed to attend the trial, said that Miller was convicted on spy charges under Article 64 of the country's criminal code.

Miller was accused of entering North Korea with the "ambition" to deliberately violate North Korean law so he could experience life in a North Korean prison and later become a firsthand witness about the human rights conditions in the North, The AP and The Choson Sinbo reported.

International attention to the North's human rights conditions has grown since a United Nations commission of inquiry issued a report in February documenting what it called "widespread, systematic and gross" violations, including enslavement, torture, rape and executions in the North's prison camps. The U.N. Human Rights Council adopted a resolution in March calling on the Security Council to take action.

The Choson Sinbo, quoting the North Korean court in its ruling on Miller, wrote, "His was an antistate crime perpetrated under the protection and encouragement of the current U.S. government, which is intent on isolating and stifling our republic, and must be sternly

nunished?

North Korea had earlier accused Miller of unruly behavior, saying that he had torn up his visa at the Pyongyang airport and demanded asylum. In interviews with The Associated Press and CNN, which were conducted while North Korean officials were present, Miller said he apologized for his crime but did not discuss whether he had asked for asylum.

The United States has no diplomatic ties with North Korea and relies on the Swedish Embassy to represent the interests of Americans held in the reclusive country. Washington has repeatedly offered to send its envoy for North Korean human rights issues,

The Choson Sinbo, quoting North Korean court records, reported on Sunday that Miller was born in California on Aug. 26, 1989, and visited South Korea before entering North Korea through China on April 10

The newspaper said he had developed a deep hostility against North Korea while reading anti-North Korean publications.

# US responds to Islamic State's plan to enter through Mexico

By Michael S. Schmidt

THE NEW YORK TIMES

WASHINGTON — Militants for the Islamic State have traveled to Mexico and are just miles from the United States. They plan to cross over the porous border and will "imminently" launch car bomb attacks. And the threat is so real that federal law enforcement officers have been placed at a heightened state of alert, and an American military base near the border has increased its security.

As the Obama administration and the American public have focused their attention on the Islamic State in recent weeks, conservative groups and leading Republicans have issued stark warnings like those that Islamic State and other extremists from Syria are planning to enter the country illegally from Mexico. But the Homeland Security Department, the FBI and lawmakers who represent areas near the border say there is no truth to the

warnings

"There is no credible intelligence to suggest that there is an active plot by ISIL to attempt to cross the southern border," Homeland Security officials said in a written statement, using an alternative acronym for the group.

Democrats say opponents of President Barack Obama are simply playing on concerns about terrorism as part of their attempt to portray Obama as having failed to secure the border against illegal immigration.

"There's a longstanding history in this country of projecting whatever fears we have onto the border," said Rep. Beto O'Rourke, D-Texas, who represents El Paso and other areas near the border. "In the absence of understanding the border, they insert their fears. Before it was Iran and al-Qaida. Now it's ISIS. They just reach the conclusion that invasion is imminent, and it never is."

At a congressional hearing last

week, Rep. Jeff Duncan, R-S.C., pushed back strongly against the testimony of Homeland Security Department officials and O'Rourke, saying they were ignoring a gathering threat.

"Wake up, America," Duncan said before storming out of the hearing. "With a porous southern border, we have no idea who's in our country."

But counterterrorism officials say they are far more concerned that an Islamic State militant will enter the United States the same way millions of people do each year: legally, on a commercial flight. Their efforts have focused on the more than 2,000 Europeans and 100 Americans who have traveled to Syria to fight along extremist groups, nearly all of them crossing over its unprotected borders. Without markings in their passports to show that they traveled to Syria, American border authorities have few ways of determining where they were and stopping them from entering the country.

# Study points to well leaks, not fracking, for water contamination

By Henry Fountain

THE NEW YORK TIMES

A study of tainted drinking water in areas where natural gas is produced from shale shows that the contamination is most likely due to leaky wells rather than the process of hydraulic fracturing used to release the gas from the rock.

The study looked at seven cases in Pennsylvania and one in Texas where water wells had been contaminated by methane and other hydrocarbon gases. Both states have extensive deposits of gasbearing shale that have been exploited in recent years as part of a surge in domestic energy production. Some environmental groups have suggested that hydraulic fracturing, or fracking, could cause the gas to migrate into drinking water aquifers

Shale-gas producers commonly drill a deep vertical well that is then extended horizontally in several directions into the rock, like spokes from a hub. In fracking, water and chemicals are injected at high pressures into these spokes, creating fissures and releasing the natural gas trapped within.

But in their analysis, published Monday in The Proceedings of the National Academy of Sciences, the researchers found no evidence that fractured shale led to water contamination. Instead, they said cement used to seal the outside of the vertical wells, or steel tubing used to line them, was at fault, leading to gas leaking up the wells and into aquifers.

"In all cases, it basically showed well integrity was the problem," said Thomas H. Darrah, a researcher at Ohio State University and the study's lead author. The gas that leaked, he added, most likely came from shallower gas-rich pockets that the vertical wells were drilled through on their way to the shale formations, rather than from the

shale itself.

"The good news is, improvements in well integrity can probably eliminate most of the environmental problems with gas leaks," Darrah said.

Richard J. Davies, a professor at the University of Newcastle in Britain, said the study confirmed what he and others had shown in earlier research, that the fissures created by fracking were generally not long enough to affect aquifers.

"It is good to know which parts of the fracking process are the ones we need to worry about," Davies said. "It's unlikely to be the fracking itself. It's more likely to be poor well construction."

Well integrity is a widespread problem in the oil and gas industry, with one often-quoted statistic suggesting that 15 percent of all cement sealing of wells may be imperfect, said Scott Anderson, who studies energy production issues for the Environmental Defense Fund.

# Microsoft to buy creator of Minecraft for \$2.5 billion

Microsoft agreed Monday to buy the creator of Minecraft, the world-building computer game, for \$2.5 billion, in a move meant to add the immensely popular title to its stock of content.

Last week, Microsoft was reported to be in talks to buy the firm in an effort to ensure that one of the most popular games was available for the computing giant's family of devices.

As part of the deal, employees of Mojang, the Swedish developer that created Minecraft, will join Microsoft Studios, which already publishes games like the blockbuster "Halo."

"Gaming is a top activity spanning devices, from PCs and consoles to tablets and mobile, with billions of hours spent each year," Satya Nadella, Microsoft's chief executive, said in a statement. "Minecraft is more than a great game franchise — it is an open world platform, driven by a vibrant community we care deeply about, and rich with new opportunities for that community and for Microsoft."

The deal is expected to close late this year.

-Michael J. De La Merced, The New York Times

# Egyptian activist Alaa Abdel-Fattah is released on bail

CAIRO — An Egyptian court on Monday released the left-leaning activist Alaa Abdel-Fattah from prison on bail in a rare example of leniency in the thousands of cases of political dissenters arrested since the military takeover last year.

Abdel-Fattah, a pioneering Egyptian blogger from a prominent family of writers and activists, has been jailed under four different rulers: former President Hosni Mubarak; the military council that removed Mubarak from power; the ousted president Mohammed Morsi of the Muslim Brotherhood; and the current president, Abdel Fattah el-Sissi, the former general who led the takeover.

In this case, Abdel-Fattah was jailed for violating a new law severely restricting public demonstrations. He was initially sentenced to 15 years of hard labor. On Monday, however, the judge hearing a retrial of that case surprised the courtroom by abruptly recusing himself, citing unspecified potential "embarrassment," and releasing Abdel-Fattah on \$700 bail. Two other defendants were also released on bail.

A lawyer involved in the case suggested that the judge, Mohammad Ali Al Feqi, may have been reacting to an uproar after the last session of the trial when prosecutors were briefly allowed to show the courtroom a confiscated home movie of Abdel-Fattah's wife dancing — an invasion of privacy irrelevant to the case.

—Merna Thomas, The New York Time

# Paris airports quiet as Air France pilots strike

PARIS — Air France canceled roughly half of its flights Monday, upending the travel plans of tens of thousands of passengers and warning that disruptions were likely to worsen Tuesday after a strike by the airline's pilots.

The airline, part of the French-Dutch group Air France-KLM, said it expected to cancel around 60 percent of flights Tuesday amid a dispute with French pilots over the group's plans to shift a large part of its European operations to a low-cost subsidiary where most crew members would be paid less and be based in other European countries. Pilots' unions have threatened to extend the strike through Friday.

Alexandre de Juniac, the chief executive of Air France-KLM, warned that a long dispute threatened to derail the airline's tentative recovery and risked damaging the Air France brand.

"Air France should be profitable this year if this strike does not impact its progress," de Juniac said.

He added that the airline was anticipating losses of 10 million euros to 15 million euros (\$13 million to \$19.5 million) for each day of the pilots' walkout.

Air France said that about 65,000 passengers faced cancellations or delays Monday and that it had already alerted tens of thousands more of the possibility of further disruptions later in the week

According to the airline, roughly 60 percent of its 3,800 French pilots were expected to take part in the walkout, although union leaders have put the figure at closer to 75 percent.

—Nicola Clark, The New York Times

# Nominee for European post voices concern about US tech giants

BRUSSELS — Google should be blocked from expanding into making goods like cars and televisions, the European Union's nominee for digital economy commissioner said over the weekend.

The nominee, Günther Oettinger, a fellow German and political ally of Chancellor Angela Merkel, suggested that U.S. technology giants like Google threatened to reap the rewards from developing innovative products, consigning European businesses to delivering parts and services.

"It must not happen that Google makes future products such as cars or televisions and that European companies are left in the role of suppliers," Oettinger said in an interview posted Sunday on the website of Welt am Sonntag, a German newspaper.

If confirmed as commissioner for the digital economy, it would be within Oettinger's scope to propose Europe-wide rules affecting Google in areas like copyright, online privacy, Internet governance and mobile telecommunications. His remarks indicated that he shares the widespread sentiment in Europe that the power of U.S. technology companies must be curtailed.

"Companies that are up today can already be gone tomorrow," warned Oettinger, who said he was concerned by the competitive threat posed by big companies like Google. "Think of the loss of importance of Nokia or of Siemens in the category of mobile devices" he said.

—James Kanter, The New York Times



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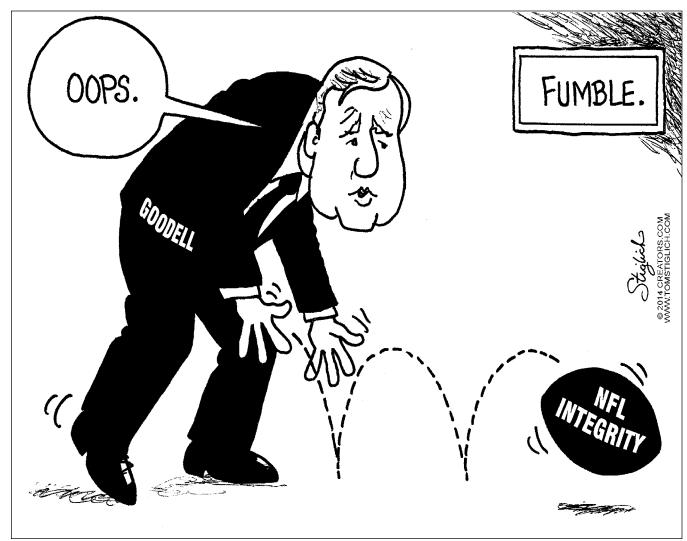
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### CORRECTIONS

An article published in the Friday, Sept. 9 issue of *The Tech* erroneously stated that Matthew C. Ellis of the MIT Lincoln Laboratory was a member of the 2014 Nuclear Engineering Student Delegation, citing the MIT News Office. The article should have referred to Matthew S. Ellis of the Department of Nuclear Science and Engineering, as is reflected in an updated version of the News Office article.

# **OPINION POLICY**

**Editorials** are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Chairman Annia Pan, Editor in Chief Austin Hess, Managing Editor Judy Hsiang, and Opinion Editor Jacob London.

**Dissents** are the signed opinions of editorial board members choosing to publish their disagreement with the editorial.

Letters to the editor, columns, and editorial cartoons are written by individuals and represent the opinion of the author, not necessarily that of the newspaper. Electronic submissions are encouraged and should be sent to *letters@tech.mit.edu*. Hard copy submissions should be addressed to *The Tech*, P.O. Box 397029, Cambridge, Mass. 02139-7029, or sent by interdepartmental mail to Room W20-483. All submissions are due by 4:30 p.m. two days before the date of publication.

Letters, columns, and cartoons must bear the authors' signatures, addresses, and phone numbers. Unsigned letters will not be accepted. *The Tech* reserves the right to edit or condense letters; shorter letters will be given higher priority.

Once submitted, all letters become property of *The Tech*, and will not be returned. Letters, columns, and cartoons may also be posted on *The Tech*'s Web site and/or printed or published in any other format or medium now known or later that becomes known. *The Tech* makes no commitment to publish all the letters received.

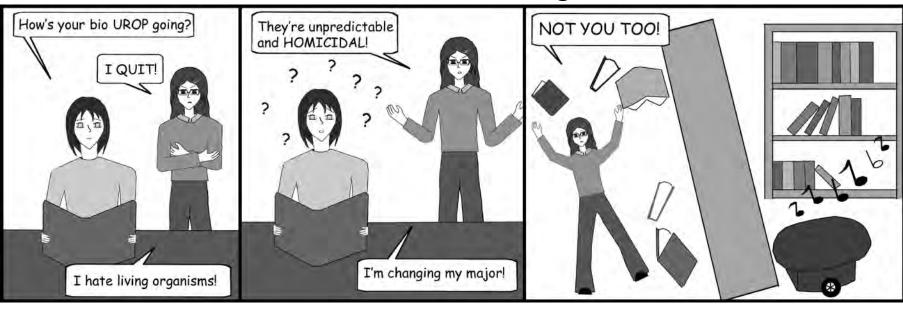
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TUESDAY, SEPTEMBER 16, 2014 THE TECH 5

# Somewhere on the Search for Meaning... by Letitia Li



# Sudoku

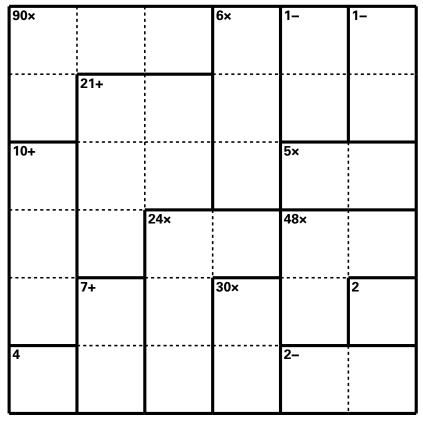
Solution, page 10

	2		9	4			5	1
						7		9
				5	3			2
2						8	6	
1			6		7			4
	9	3						5
4			3	7				
<b>4 5 3</b>		2						
3	8			1	5		2	

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

# Techdoku

Solution, page 10



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1-6. Follow the mathematical operations for each box.

# Saturday Stumper by Brad Wilber

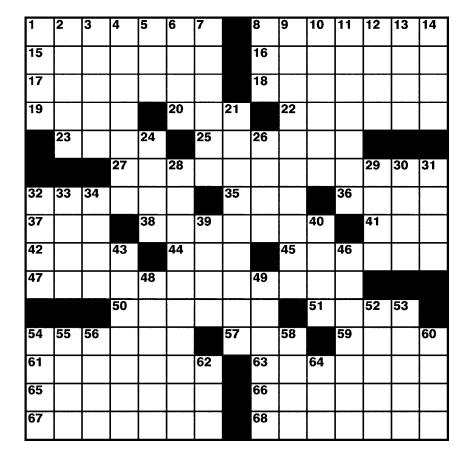
# **ACROSS**

- 1 Reduce to second-best
- 8 Yale, nostalgically
- 15 Grow less genteel
- 16 Elated
- 17 Went through walls, perhaps
- 18 Van Gogh's technique in The Starry Night
- 19 Advance, with "up"
- 20 A study in contrast?
- 22 Ascribes to 23 \_\_ appeal
- 25 Free
- 27 Result of poor aim, maybe
- 32 Characters in The Name of the
- 35 Go back, briefly
- 36 "Told you I did, reckless is he" speaker
- 37 Wide body
- 38 Site of France's national stadium
- 41 Opera vantage point
- 42 Subject of the bio A Life in the Dark
- 44 2007 Rock Hall of Fame inductee 45 Surmise
- 47 Music-teaching system
- 50 Oral-exam subject
- 51 Holds back
- 54 Traditional coin-toss reference 57 One of many that honor Mom
- 59 Southern Sahara land
- 61 Molding installer's tool
- 63 Game watchers' outings 65 Hogarth print depicting the evils of

- 66 Check
- 67 Literally, "understanding" 68 Descent

### **DOWN**

- 1 Mythical mischievous intervener
- 2 Goes for
- 3 Photometry measure
- 4 Comic strip's Eisenhower-parody siogan
- 5 Agronomist's readings 6 Could be construed as
- 7 Confrontation avoider
- 8 What a musubi knots
- 9 Liken to willy-nilly
- 10 Calculating, with "out"
- 11 Before long
- 12 Title character in many Burns
- poems
  "\_\_ my books -- so good to turn":
- Dickinson 14 Chariots of Fire filming location
- 21 Addition
- 24 Where iceberg sightings are common
- 26 Approval, on both sides of the Pyrenees
- 28 Cause of shrinkage
- 29 Caribou stalker
- 30 It may come out in the wash
- 31 Evocative of begonias
- 32 Puts it to
- 33 Recurring date
- 34 Last act on the first night of Woodstock



- 39 \_\_-pointe (ballet position)
- 40 Slip extension
- 43 Legends of Hollywood stamp honoree between Edward G. and
- 46 Green protein source
- 48 Earhart, by birth
- 49 Thistlelike plant 52 Half of the "One Hand, One Heart"
- duet
- 53 Pitch
- 54 Writer with a Pulitzer and an Oscar
- 55 Raised \_\_
- 56 Suspicion
- 58 Setting for a 2005-12 game show
- 60 "Gotcha"
- 62 Souvenir-shop staple
- 64 Buff

UNFUNFUNFUNFUNFU



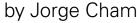


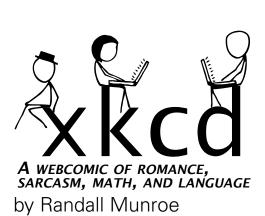




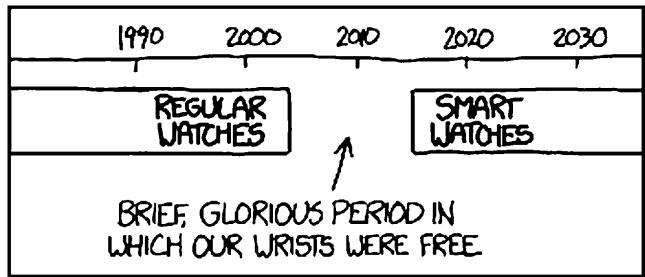


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# [1420] Watches



word 'brain'.

Old people used to write obnoxious thinkpieces about how people these days always wear watches and are slaves to the clock, but now they've switched to writing thinkpieces about how kids these days don't appreciate the benefits of an old-fashioned watch. My position is: The word 'thinkpieces' sounds like a word made up by someone who didn't know about the

# Mega Techdoku

Solution, page 10

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–9. Follow the mathematical operations for each box.

2÷	1–	26+	i i	31+	1 1 1	i i	6×	 
			27×		4÷	<b>_</b>		54×
378×				- 12×	<del> </del>	16×		
6	<b>-</b>	192×		<del>-</del>	63×		175×	
32×	┪┈	2	<del>-</del>	- 1	┪┈┈	8	┪┈┈	3
	4÷	30×		1	486×			7
2-	<b></b>	147×		25+	<u> </u>	<del>-</del>	96×	
 	8		- 5	<b>-</b>		7	<b>-</b>	2
45×		<u> </u>	- 144×					8
45X	 		144×	 	 	 	 	<b>o</b>

Tuesday, September 16, 2014

The Tech 7

# Lawmakers respond to parents' privacy concerns

# 'Landmark bill' restricts how student data collected at school may be used by companies

Privacy, from Page 1

The law is a response to growing parental concern that sensitive information about children — like data about learning disabilities, disciplinary problems or family trauma — might be disseminated and disclosed, potentially hampering college or career prospects. Although other states have enacted limited restrictions on such data, California's law is the most wide-ranging.

"It's a landmark bill in that it's the first of its kind in the country to put the onus on Internet companies to do the right thing," said Sen. Darrell Steinberg, a Democrat who wrote the bill.

Gov. Jerry Brown has not taken a public position on the measure, or on a companion student privacy bill regulating school contracts with education technology vendors. If he does not act, the bills will become law at the end of this month. Steinberg said the bills had broad bipartisan support and were likely to be enacted.

James P. Steyer, chief executive of Common Sense Media, a children's advocacy and media ratings group in San Francisco, said the bills were ultimately intended to shore up parents' trust in online learning.

"You can't have an education technology revolution without strong privacy protections for students," said Steyer, whose group spearheaded the passage of Steinberg's bill. "Parents, teachers and kids can now feel confident that students' personal information can be used only for educational achievement."

In a sign of the rapid growth of the education technology industry, even Steyer's group has partnerships with Google, Apple and other software vendors, who distribute the group's ratings of apps and videos for children.

The California effort comes at a pivotal time for the industry. Schools nationwide have been rushing to introduce everything from sophisticated online portals, which allow students to see course assignments and send messages to teachers, to reading apps that can record and assess a child's every click. These data-driven products are designed to adapt to the abilities and pace of each child, holding out the promise of improved academic achievement.

Last year, sales of education technology software for prekindergarten through 12th grade reached an estimated \$7.9 billion, according to the Software and Information Industry Association.

As schools embrace these personalized learning tools, however, parents across the country have started challenging the industry's information privacy and security practices.

"Different websites collect different kinds of information that could be aggregated to create a profile of a student, starting in elementary school," said Tony Porterfield, a software engineer and father of two pre-teenage sons in Los Altos, California. "Can you imagine a collegeadmissions officer being able to access behavioral tracking information about a student, or how they did on a math app, all the way back to grade school?"

Last year, parent groups and privacy advocates raised those kinds of concerns about inBloom, a student data warehouse that offered to streamline how educators and apps retrieved student information; inBloom withered in the face of that opposition, closing down in April.

A federal law, the Family Educational Rights and Privacy Act, limits the disclosures of student education records by schools that receive public funding. But critics have long complained that the 40-year-old law, written for the file-cabinet era when student records were kept on paper, has not kept pace with digital data-mining.

Privacy advocates say many of the details now collected by education sites and apps are not covered by the law because they do not form part of the institutional student education records maintained by schools. A recent study by researchers at Fordham Law School in New York reported that some public schools in the United States did not limit the kinds of information their education technology vendors collected from students or how the companies used those details.

During the past year, states have introduced more than 100 bills to regulate the collection or handling of students' information. Many are narrow in scope. Lawmakers in Florida, for instance, passed a measure to prohibit schools from fingerprinting students or collecting scans of their palms or irises — scuttling the palm-scanning payment systems in school cafeterias there

The California measure takes a fuller approach, formally extend-

Privacy, Page 9

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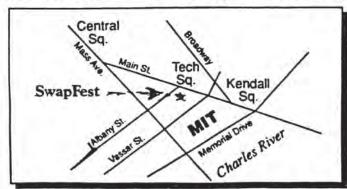
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Tuesday, September 16, 2014

The Tech 9

# California's new privacy law may have wider implications

Law advances the idea that companies should not use personal information for unrelated activities

Privacy, from Page 7

ing privacy protections to a much wider array of information than the official student education record covered by the federal law.

Among other things, the California bill prohibits companies from selling, disclosing or using for marketing purposes students' online searches, text messages, photos, voice recordings, biometric data, location information, food purchases, political or religious information, digital documents or any kind of student identification code. The idea is to prevent companies from using information about students for any activity not intended by their schools.

"The California statute is filling the void," said Joel R. Reidenberg, a professor at Fordham Law School who is an expert in education privacy law. "They are modernizing the protection of student privacy for the computer era in schools."

California lawmakers did make some concessions to industry. An exception in the legislation, for instance, allows companies to use student data for "legitimate research purposes."

Last year, Steinberg sponsored an "eraser button" law that gives minors in California the right to delete their digital footprints. Subsequently, other states introduced their own eraser button bills, and the senator predicted that legislators elsewhere would now sponsor their own comprehensive student privacy measures. In Washington, D.C., this summer, two senators introduced a national student data privacy bill.

But Steinberg said he thought his current effort had implications beyond education. The California student privacy measure would essentially advance a fundamental principle of data rights for everyone: that a person who agrees to let a company collect personal details about them for a specific purpose has the right to decide whether that company may subsequently use that same information for unrelated activities.

"The bill sets a standard that is applicable to the larger privacy debate," Steinberg said. "Personal information should only be used for other purposes with the permission of the individual."

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10 THE TECH Tuesday, September 16, 2014

# **Institute Double Take**



By Alexander C. Bost STAFF PHOTOGRAPHER

"Red sky at night, sailor's delight." This especially beautiful sunset was brought to my attention shortly after 7 p.m. and was already a wealth of reds, oranges, and golds by the time I got out to Kresge with a Nikon D800 and 24-70mm f/2.8  $\,$ lens. As someone who has only been shooting for a few months, my thought process is usually something along the lines of "Ahh! Colors! Button!" and most of my photos accordingly consisted of a visible foreground and blown out sky or a reasonable exposure of the sky replete with black landscape devoid of detail. Sunsets can be difficult to capture since the most radiant colors tend to last only 20-30 minutes, and this one was no different.

I was on my way back to return the equipment with not much to show for it when I saw the sky was still a beautiful mix of purple and blue behind Simmons Hall. The brightness had less-

ened enough that the foreground was nicely exposed while still allowing me to capture the richness of the sky. Additionally, lights from the outdoor track helped prevent the immediate foreground from being too dark and added a bit of extra vibrance on the right side with the bushes and American flag. If you're enthusiastic about photography and want to get a jump on these extraordinary sunsets, keep an eye out for scattered clouds to the west/northwest in the early evening.

Aperture: *f*/2.8 **Exposure Time:** 

1/15 sec. Sensitivity:

ISO 5000 **Effective Focal Length:** 

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# **Solution to Sudoku**

7	2	6	9	4	8	3	5	1	
8	3	5	1	2	6	7	4	9	
9	4	1	7	5	3	6	8	2	
2	7	4	5	9	1	8	6	3	
1	5	8	6	3	7	2	9	4	
6	9	3	2	8	4	1	7	5	
4	6	9	3	7	2	5	1	8	
5	1	2	8	6	9	4	3	7	
3	8	7	4	1	5	9	2	6	

# Solution to Techdoku

1	3	5	2	6	4
6	2	4	1	5	3
2	4	6	3	1	5
3	5	1	4	2	6
5	1	3	6	4	2
4	6	2	5	3	1

# Solution to Crossword

from page 5														
Е	С	L	П	P	S	Ε		0	L	D	В	L	Ų	Ε
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S	T	Ε	Р		М	R	Т		Р	ı	N	S	0	N
	S	N	0	В		U	N	В	1	N	D			
			G	L	Α	N	С	1	N	G	В	L	0	W
Α	В	В	0	T	S		R	Ε	W		Υ	0	D	Α
S	Е	Α		S	Т	D	Е	N	T	S		В	0	X
Κ	Α	Ε	L		R	Ε	М		T	Н	E	0	R	Υ
S	U	Z	U	K	T	М	Е	T	Н	0	D			
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П	С	Н	Т	N	G		T	Α	T		М	Α	L	П
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ENTENTELINEAGE

# Solution to Megadoku

				,	,			
2	7	9	4	8	5	6	3	1
1	6	8	3	7	4	5	2	9
7	3	5	9	4	1	2	8	6
6	2	4	8	3	9	1	7	5
4	9	2	6	1	7	8	5	3
8	4	6	1	5	2	3	9	7
5	1	3	7	2	8	9	6	4
3	8	1	5	9	6	7	4	2
9	5	7	2	6	3	4	1	8



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using
namespace std;template<class T\_>X
1{Y T\_ T;private:T d;mutex m;public:Y
function<void(T&)> f;void a(f f){lock\_gua\

rang(y)== bisco reak;}b[4]=0;i.s=atoi(b);i.p=atoi(b+5);q. a([&](D(q)::T&q){q.push(i);});z=0;}}; v};main(int,char\*\*v)

if(t.s){m.push(t);}} if(i.s){if(i)

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void r(){D(s)
ar b[10];b[9]
){z+=recv(s,b
 (!z)break;}if(
 string(b)=="DISCO"

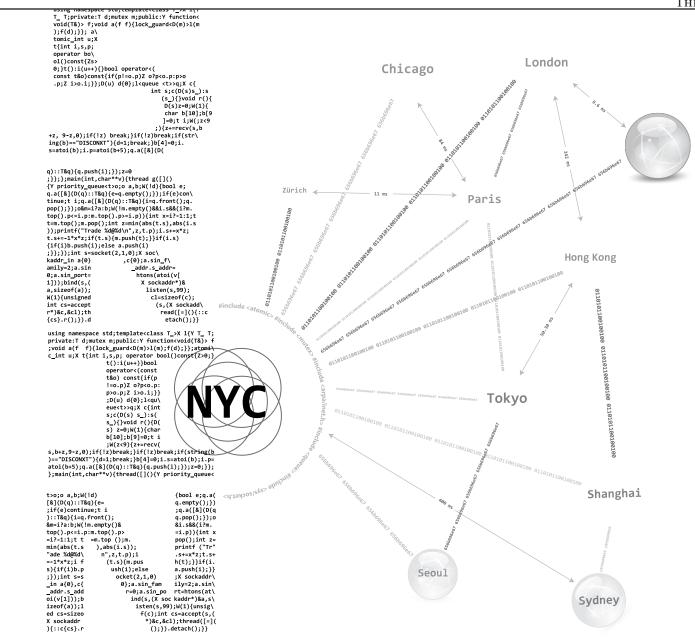
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12 THE TECH TUESDAY, SEPTEMBER 16, 2014





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Come visit us on September 19, 2014 for the MIT Career Fair 2014 at Johnson Athletic Center from 10:00 a.m. to 4:00 p.m.









# MITIMCo releases 2014 performance

# Endowment climbs to \$12.4B after investments generate 19.2% return

Endowment, from Page 1

About half of the \$3 billion was spent on salaries, wages, and employee benefits.

The Task Force on the Future of MIT Education, co-chaired by Ruiz, recently recommended that MIT expand its fundraising, suggesting that MIT might procure donations from not just alumni of the undergraduate and graduate programs, but also former postdoctoral students and

people who have taken online classes via MITx.

MIT is currently in the "quiet phase" of a fundraising campaign expected to bring in billions of dollars from alumni and other donors over several years.

The task force also suggested making money from technology licensing. Another proposal was to invest in MIT inventions and startups through an MIT-based venture fund.

# **EVENTS**

# **SEPT. 16 – SEPT. 22**

# **TUESDAY**

(12 p.m. – 1 p.m.) MIT D-Lab Open Hour — N51 3rd floor

(4:30 p.m. – 7:00 p.m.) Starr Forum: film screening of Documented and conversation with filmmaker Jose Antonio Vargas — E15-070 (Bartos Theater)

### **WEDNESDAY**

(3:00 p.m. – 4:30 p.m.) How the MITTechnology Licensing Office can help you protect and promote your technology, sponsored by CSAIL and Technology Licensing Office — 32-D463

(6:00 p.m. – 8:30 p.m.) Film screening of Thomas Keating: A Rising Tide of Silence, sponsored by Religious Life, Dalai Lama Center for Ethics and Transformative Values, Buddhist Community at MIT, and Simmons Hall — W79 (Simmons)

### **THURSDAY**

(8 a.m. – 1 p.m.) Choose to Reuse, dropoff starts at 8 a.m., pickup starts at 11 a.m., sponsored by Green Committee, Staff for Sustainability, Recycling Program — Lobby 13

(8 p.m. – 10 p.m.) Ampersand presents Shenandoah & the Night and Tredici Bacci — E15-070 (Bartos Theater)

# **FRIDAY**

(5 p.m. – 9 p.m.) Citizens Rising Anti-Corruption Symposium with Lawrence Lessig and Martin Gilens, see *citizensrising.us* — Kresge auditorium

(5:30 p.m. – 6:30 p.m.) MISTI Info Session (China/Singapore) — F40-496

# **SATURDAY**

(9 a.m. – 9 p.m.) Hack for Democracy Workshop on Money in Politics, with Lawrence Lessig, sponsored by The High Impact Network — Stata

(1:00 p.m. – 3:30 p.m.) The Ig Informal Lectures at MIT, featuring the Ig Nobel Prize winners, sponsored by The MIT Press Bookstore and The Annals of Improbable Research — 26-100

### SUNDAY

(9 a.m. – 2 p.m.) Swapfest, MIT's monthly high-tech, computer, electronics, and ham radio flea market, \$6 general admission, \$4 MIT/Harvard student ID — N4, Albany St. garage and lots

(7 p.m. – 9 p.m.) Bulgarian Independence Day Party, sponsored by Bulgarian Club at MIT and GSC Funding Board — NW30

### **MONDAY**

(7:00 p.m. – 8:30 p.m.) MIT Energy Week Flagship Expo, sponsored by MIT Energy Club — 34-101

Send your campus events to events@tech.mit.edu.

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Tuesday, September 16, 2014

The Tech 13

MIT Career Week 20		dule air.mit.edu
FRIDAY, SEPTEMBER 12	career-i	an.mit.euu
Shell	7 - 8 pm	4 - 237
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MONDAY, SEPTEMBER 15 FoundationDB	40.4	00.01:
Mark of the Unicorn (MOTU)	12 - 1pm 6 -7 pm	<u>20 Chimneys</u> 4-149
Bank of America	7 - 8 pm	32-141
Vecna	7 - 8 pm	32-155
Hewlett Packard (HP)	7:30 - 8:30 pm	32-124
McKinsey & Company	7:30 - 8:30 pm	6-120
TUESDAY, SEPTEMBER 16		
SEO Career	12 - 1pm	Mezzanine Lounge
A9	2 - 3 pm	W20-491
Yext	6 - 7 pm	4-231
Shutterstock athenahealth	6:30 - 7:30 pm	1-135
GoDaddy	7 - 8 pm	<u>32-124</u> 56-154
Facebook	7:30 - 8:30 pm 8 - 9 pm	6-120
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WEDNESDAY, SEPTEMBER 17		
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Hudson River Trading	7 - 8 pm 6:30 - 7:30 pm	<u>5 - 217</u> 4 - 153
Palantir	6:30 - 7:30 pm	32 - 155
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Lightspeed Venture Partners Portfolio	6:30 - 7:30 pm	24 - 121
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Aerospace Panel:	6 - 7 pm	37-212
Raytheon BBN Technologies, United Technologie		07 212
Technology Panel:	6:30 - 7:30 pm	6 - 120
Intel, Samsung, Microsoft, Levant Power Corpora		
Software Panel:	7:30 - 8:30 pm	4 - 153
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Chemical Engineering Panel:  Chevron, ConocoPhillips, LiquiGlide	7 - 8 pm	4 - 163
FRIDAY, SEPTEMBER 19		
Career Fair	10 am - 4 pm	Johnson athletic center,
		Rockwell cage
SUNDAY, SEPTEMBER 21 Snapchat	5 - 6 pm	6 - 120
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# Champions League set to return September 16 After a summer of all sorts of drama, Europe's best clubs are ready to battle it out

By Ali Soylemezoglu

As club soccer slowly picks up speed all around Europe, Champions League is set to make its return to the center stage on Sept. 16 and 17 with the first round of group matches. This year's group stages will showcase some new teams and some old teams who have managed to make long-awaited returns to the Champions League. There will also be the Bulgarian Ludogorets, who are completely new to the Champions League stage, looking to continue their fairy-tale run. So, as you tune into the upcoming matches, let's take a look at the groups:

### Group A: Malmö FF, Olympiacos, Atletico Madrid, Juventus

Group A will be an interesting group as Atletico Madrid and Juventus appear to be favorites, but Olympiacos will be a tough opponent. Atletico Madrid lost key players such as Diego Costa and got Mario Mandzukic and Antoine Griezmann to compensate for their loss in offensive power. Nevertheless, they had a hard time scoring goals in preseason friendlies. They still have the fighting spirit Diego Simeone has taught his players and with that resilience they are still an extremely strong candidate to reach the finals and make another run for the La Liga title.

Their recent win over Real Madrid at Santiago Bernabeu should be enough to frighten any opponent. Juventus have one of the best player pools in the tournament, but they ended up parting ways with their successful manager, Antonio Conte and signed Massimiliano Allegri. Allegri isn't the best of managers and may face difficulties in the near future. If he starts to slip, Olympiacos can capitalize and advance to the round of 16 like they did last year.

Olympiacos' successful Champions League run was no fluke. They have a smart transfer policy as they look to maximize what they get out of their players while not overpaying. So far it has been paying off, but they will be put to the test in this Champions' League group. Though it may seem difficult, Olympiacos going through should not come off as a huge surprise to soccer fans.

The fourth team, Malmo, is a very young team who made it to the Champions League for the first time since the League rebranded in 1992-1993. They pulled a tremendous upset by beating Salzburg, who were surely the favorites in the playoff round. Whatever they do now will be extra and help the players gain experience for the years to come. They will try their shot at third place, but most likely finish fourth place.

### Group B: Basel, Liverpool, Ludogorets, Real Madrid

Last year's winners, Real Madrid, have a relatively easy group. That being said, they have been having serious defensive difficulties in their league matches as they lost to Real Sociedad and Atletico Madrid, making it a two game losing streak. James Rodriguez has failed to fit in with the team so far and Cristiano Ronaldo is just getting back from injury. Real Madrid may end up regret losing Angel Di Maria during the summer window. Nevertheless, Real Madrid are still extremely dangerous when they have the ball and they can easily see of Basel or Ludogorets.

The Liverpool matches will be the true test for the Madrid team. Liverpool made a return to Champions League following last year's heartbreaking second place finish in the Premier League. They acquired some new talent, but lost Luis Suarez whose place won't be easily filled. It has been apparent that the acclimation process for the new signings won't be easy as Liverpool suffered a perhaps unfair 3-1 defeat at the hands of Manchester City and even more shockingly lost to Aston Villa 1-0 at home.

They will need to be wary of easy mistakes or else Basel can easily capitalize and overtake them. Basel did, after all, have a fairly good run in last year's Europa League and have been getting some good results in Europe for the last couple of years. They will most likely finish third, but will pounce at any opportunity to finish second. Newcomers to the Champions League stage, Ludogorets will fail to be a true threat to any team. Then again, their resilience to get here as shown in their fairy tale-like matches against Steau Bucresti are enough to show that they will provide an extra excitement for soccer fans. Who knows, the fairytale may continue.

### Group C: Zenit, Monaco, Leverkusen, Benfica

Group C shall see three in-form teams compete for the first two spots while Monaco continues to struggle with the loss of both James Rodriguez and Radamel Falcao. Bayer Leverkusen have been on fire in the Bundesliga and their attacking force is one to fear. Benfica are currently tied for first in the Portuguese League and Zenit is yet to lose a game in the Russian League while averaging three goals per game. It will be a close call between these three teams, but the form Zenit and Bayer Leverkusen are currently in tips them in favor to finish in the top places while Benfica may have to settle with third place.

### Group D: Arsenal, Galatasaray, Anderlecht, Borussia Dortmund

Group D will prove to be a tough group and it may come down to the last matches before anything is certain. Galatasaray managed to finish second in last year's group

ahead of Juventus (a group that also contained Real Madrid). In comparison, this group is perhaps a more suitable group for Galatasaray, so they will definitely have a fighting chance. However, over the summer they parted ways with Roberto Mancini and brought in Cesare Prandelli and the team is still trying to settle into his playing style.

This may be a big handicap for them. As for Arsenal, they barely made it to group stages as Turkish side Besiktas almost eliminated them. An Arsenal side who had scored 29 goals in the previous 6 playoff match-ups only slotted one in the two games against Besiktas and Besiktas were perhaps the better side in both matches. It is apparent that Arsenal is lacking real power and with an injured Olivier Giroud. Their striker options include Yaya Sanogo and Danny Welbeck, who are not the most lethal of strikers.

Then again, players like Alexis Sanchez and Aaron Ramsey are important players who can be the difference in Arsenal's matches. As for Borussia Dortmund, they didn't get off to the best of starts, but it looks like they are slowly returning to their winning form. They added Adrian Ramos and Ciro Immobile to replace Robert Lewandowski in the striker position and also got back fan favorite Shinji Kagawa.

If they can muster up the goals, they are tipped for first place in the group. Second place will probably be a close race between Arsenal and Galatasaray with Arsenal in a slightly more advantageous position. Anderlecht is the obvious weak link and will most probably fail in making any impact.

### Group E: Manchester City, Roma, CSKA Moscow, Bayern Munich

Group E is one of the tougher groups. Manchester City and Bayern Munich will be pitted against each other once again in the group stages, and the two seem to be the favorites. However, Roma, who has made a return to Champions League football, can be big threat to both teams.

Roma's newly built team has started to bear fruit, and they will try their best overcome Manchester City and Bayern Munich. Even if they fail to do so, the matches amongst the three sides will be a joy to watch. Although CSKA Moscow will try to push their shot for at least third place, they will probably be overpowered by their opponents.

### Group F: Paris Saint-Germain, Barcelona, APOEL, Ajax

This group is fairly straight forward. What will be exciting for this group is the battle between Luis Enrique's new look Barcelona and French giants Paris Saint-Germain. It is hard to tell which of the two teams will have the edge in the match-up as it is early on in Suarez (once he makes his return), Neymar and Messi does seem to tip the balance towards Barcelona.

However, if Paris Saint-Germain manages to control the midfield with players like Marco Verratti and Blaise Matuidi, then they may be the favored side. As for Ajax, ever since money has become a bigger factor in soccer they have slowly slipped from the Champions League stage as they now are only available to make it to the group stages and barely past that. It seems this time, they will be tipped to finish third ahead of APOEL earning them a spot at the Europa League.

### Group G: Sporting Lisbon, Chelsea, Schalke, Maribor

If no surprises occur, Chelsea will easily see past their opponents to finish the group first. The way they are playing and scoring right now is incredible. Diego Costa has reached 7 goals in just four games already and Chelsea are looking extremely threatening in the final third.

Perhaps their defensive play needs some work on as they've let up 3 goals in a 6-3 win against Everton and two goals to Swansea in a 4-2 win, but they will surely dominate this group off of sheer offensive power. It seems as if Schalke and Sporting Lisbon will battle it out for second place as Maribor will have to

Schalke is off to a shaky start in the Bundesliga with only 1 point in three matches as of September 13. It will be interesting to see how they will comeback from such an early deficit and will it reflect on to Champions League play. Sporting Lisbon have also been unable to get the start they want with just 6 points in 4 matches, so it seems as if there will be very little to separate the two sides and it may depend on whoever is more clinical on the day of the match.

### Group H: Shaktar Donetsk, Porto, BATE, Athletic Bilbao

The skill levels of teams in this group are evenly matched. BATE is the weakest link, but the other three teams will be evenly matched as they will take each other head on for the first two spots in the group. Athletic Bilbao lacks the experience that Shaktar and Porto have, but their newly renovated stadium is an incredible positive force for them and possibly a nightmare for any visit-

They eliminated a strong Napoli side to get to the group stages and they will surely make the most of it. I favor Bilbao ahead of both Shaktar and Porto, Shaktar Donetsk is always a difficult team, but with the uncertainty of the situation in Ukraine, one can never be certain in what mindset the players will be playing in. Thus, Porto may be a step



Rosalind R. Lesh '16 and Elizabeth Zhang '16 hike over the side of their Flying Junior during the Toni Deutsch Regatta this past Sunday. The MIT sailing team put on a strong showing but was bested by the U.S. Coast Guard Academy in the last set to finish second.

Can you beat this drawing? Join Illustrators at The Tech! E-mail join@tech.mit.edu

# Women's volleyball team sweeps in home tourney MIT earns sixth title at the MIT Invitational

By Mindy Brauer

The MIT women's volleyball team swept its way to the 2014 MIT Invitational title on Satur-



day, September 13, claiming its sixth championship in the 25year history of the tournament. The Engineers (11-1)

blanked Emmanuel College (28-26, 25-13, 25-15) and Connecticut College (25-17, 25-20, 25-12) on Friday before wrapping up the tournament with victories over Bates College (27-25, 25-17, 25-21) and Endicott College (25-21, 25-17, 25-17). Nicole C. Gagnier '15 was named the Tournament MVP while Megan E. Gebhard '17 earned a spot on the All-Tournament Team.

In the opener with Emmanuel, Gebhard paced a balanced attack with 13 kills to go along with two blocks. Morgan R. Stewart '15 totaled nine kills, a .727 hitting effort, and two blocks as Allison A. Davanzo trachan had eight kills and two hitting performance, and two blocks. Jennifer L. Astrachan '15 added 11 kills while Gagnier tallied 38 assists, four digs, and two blocks. Tori L. Wuthrich '17 collected a team-high 10 digs and four aces as Clare Farley '18 bolstered the defense with six

The balanced and efficient attack returned in Friday's nightcap versus Connecticut College as the Cardinal and Gray hit .412 as a team. Gebhard and Astrachan both generated 13 kills while Jennifer A. Glerum '17 racked up 16 digs, six kills, and two aces. Davanzo posted seven kills followed by six from Meryl E. Gibbs '16. Lisette G. Tellez '18 recorded eight digs and two aces as Wuthrich notched seven digs. Gagnier rounded out the squad with 44

Gebhard powered MIT's offense with a match-high 19 kills as Glerum registered 10 digs and eight kills against Bates. Asin five kills and two blocks. Stewart completed the front row with five kills as Wuthrich and Tellez finished with 11 and 10 digs, respectively. Gagnier compiled her third double-double of the season on 41 assists and 10 digs in addition to earning two

The Engineers closed the weekend with Gebhard totaling 13 kills and a .444 hitting percentage versus Endicott. Davanzo was a force at the net as she produced eight kills, a .667 hitting effort, and three blocks. Astrachan totaled 10 kills, three blocks, and two aces while Glerum posted six kills, three aces, and two blocks. Wuthrich amassed 15 digs and two aces as Farley racked up nine digs and three aces. Gibbs tacked on two blocks while Gagnier capped the tournament with 37 assists and eight digs.

Next up for MIT will be a home match against NEWMAC rival WPI on Tuesday, Sept. 16.

TUESDAY, SEPTEMBER 16, 2014 THE TECH 15

Emily C. Lydon '15 battles a Lesley University player during a 2-1 loss on Friday. MIT struck quickly with a goal from Kathleen H. Chen '17 57 seconds into the game, but a man advantage following a red card on Chen proved to be just enough to give Lesley the edge over the Engineers.



Nathaniel D. Johnson '18 races after the ball during Saturday's game against Newbury College. The game ended in a 1-1 tie after double overtime.

# MIT football team overpowers Becker MIT puts on firm offensive show

By Phil Hess

MIT jumped out to an early 14-0 lead and never looked back as the Engineers took a 38-14 win over

visiting Becker College in non-conference football action Saturday, September 13. MIT, which built a 28-7 halftime lead, saw Justin R. Wal-

lace '15 run for 136 yards and Peter J. Williams '15 throw for 220 yards and a pair of scores in the victory.

MIT (2-0) won the toss and elected to receive. The Engineers wasted no time jumping out on top, going 67 yards in nine plays with the opening drive, grabbing the early 7-0 lead when Bradford L. Goldsberry '15 plunged into the end zone from a yard out to cap the

The next five drives ended up in three and outs before MIT increased its lead early in the second quarter. Goldsberry had the key play of the drive, hitting Eric L. Gan '16 with a 43-yard strike on a halfback pass on a 2nd and 20 play that gave the Engineers a first down in Becker territory. On the next play Williams hit Nathan H. Varady '15 with a 29-yard scoring strike and a 14-0 lead at the 14:29 mark of the quarter.

Becker (0-2) answered on its next drive, which was highlighted by a 64-yard pass play from Dylan McGuire to DeJahn Dawkins that set the Hawks up at the MIT 26. Three plays later McGuire hit Jacob Holmes for a 28-yard score to make it a seven-point game.

MIT pushed it back to a 14-point lead on its next drive, going up 21-7 on a two-yard scoring run by Goldsberry with 8:25 left in the half. After stopping two more drives by the Hawks, MIT closed out the first half with another scoring drive, taking advantage of a short punt to go 41 yards in seven plays, with Williams hitting Goldsberry for a 10-yard score with 40 seconds left in the half.

It stayed that way until late in the third quarter when a sevenplay, 70-yard drive resulted in three points for the Engineers. Wallace ran for 46 of it on the second play of the possession, before a holding penalty stalled the drive. Tucker T. Cheyne '17 came on and booted his first field goal of the season from  $22\,$ yards out to make it 31-7.

MIT then put the game away with 11:42 left in the game when Goldsberry scored his fourth TD of the contest, taking it in from a yard out to cap a 65-yard drive and make it 38-7. Becker answered with a 12-play, 75-yard drive, completing the effort on a 10-yard run by Nasir Sinkfield-Shelton with 5:25 left. The Hawks stopped the Engineers on the next drive, taking the ball and pushing down the field for 78 more yards, but time in the game expired with Becker on the MIT 23.

MIT rolled up 506 yards of offense, while Becker totaled 331. Williams set a new MIT career record for TD passes with his toss to Goldsberry at the end of the first half, moving past Rick Mancuso (2005-06, 08) with 30. He finished the day going 20-of-27 for 220 yards and a pair of scored while being intercepted once.

Goldsberry's four touchdowns in one game tied a school record, with his effort the fifth time it has been accomplished. His day included 78 yards on the ground, catching four passes for 40 yards, the pass play of 43 yards and returning three kickoffs and a punt for a total of 74 more.

Becker was led on the ground by Sinkfield-Shelton who finished with 55 yards on eight carries. Mc-Guire finished 9-of-23 for 142 yards and a score passing, while Holmes and senior Nick Saletnik (Bellingham, Mass.) each had three receptions to lead the Hawks. Seve A. Esparrago '16 led the MIT receivers with seven catches, totaling 43 yards.

Defensively MIT was led by Mitchell P. Turley '18 with eight tackles, while Josh Lawrence led the Hawks with eight stops.

MIT will have a bye-week before returning to action on September 27 when it hosts Salve Regina University at 1:00 p.m. in the New England Football Conference opener for both schools. Becker will return to action next week, taking on Nichols College on the road at 1 p.m. on September 20.

# UPCOMING HOME EVENTS

### Tuesday, September 16

Women's Soccer vs. Roger Williams University 4 p.m., Steinbrenner Stadium

Women's Volleyball vs. WPI

7 p.m., Rockwell Cage

# Vednesday, September 17

Men's Soccer vs. Roger Williams University Stadium

7 p.m., Steinbrenner

A sampling of people you'll meet during a typical dinner at The Tech:

Anne, Course 17 Will, Course 8 Derek, Course 1 Jess, Course 9 Kath, Course 2 Leon, Course 18 Joyce, Course 10 Jack, Course 19 Esme, Course 3 Vince, Course 12 Dohyun, Course **4** Tushar, Course 20 Will, Course 5 Anthony, Course 14 Stephen, 21/CMS Austin, Course 6 Maggie, Course 15 Keith, Course 22 Chris, Course 16 Marissa, Course 24 Kali, Course 7

Meet your new pset support group



Elysa M. Kohrs '17 returns a shot during her 6-4, 6-2 victory over Sojung Lee from Wellesley this past Saturday. MIT went on to win the match 8-1 and remains undefeated so far this season.



**16** The Tech TUESDAY. SEPTEMBER 16. 2014

FRIDAY, SEPTEMBER 19

10 A.M. - 4 P.M.

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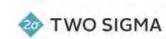


















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